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Memorandum

To: Distribution

From: Carl S. Peil, P.E.
Preconstruction Engineer Carl S. Peil

Date: July 1, 2003

Subject: Temporary Detours

Recently there have been a number of questions about the details that should be included in the MDT or consultant designed road plans for temporary detours when culverts are specified as the drainage structures. We are providing the following information to assist designers in the preparation of the detour details.

A combined MDT/FWP Task Force met in 1997 and established recommended criteria for the placement of temporary facilities in drainages. The intent of these criteria is to facilitate the removal of the detour culvert and fill material from the channel.

Once the design team determines that a temporary detour is required, the Hydraulics Section will design the drainage structure that provides an adequate waterway opening, and where appropriate, fish passage.

Prior to installing the detour culvert one of the two following treatments will be required.

1 Place drain aggregate in the channel bottom extending 0.5 m beyond each side of the active channel. The drain aggregate should be placed to an average depth of 150 mm for the entire length of the culvert. (drain aggregate will meet the requirements of 701.10 in the Standard Specifications). This treatment is typically used in perennial streams or any streams with a cold water fisheries.

2. Place Class I Erosion Control geotextile in the active channel. The geotextile should extend 0.5 m beyond each side of the active channel for the entire length of the culvert.

If wetlands/riparian areas are impacted by the detour embankment outside of the active channel geotextile should still be placed over the affected wetlands/riparian areas.

Geotextile must also be placed on the upstream and downstream face of the detour embankment. The geotextile should be keyed into the toe of the fill and the top of the fill. It should extend at least 1 m beyond the defined channel banks. Note that the defined channel banks may not be the same as the active channel.

The designer should coordinate with the District Biologist early in the detour design process to determine which treatment should be used and to address other environmental concerns associated with the detour.

The following details need to be included in the plans:

1. Plan and profile of the detour. We recommend that the location where the detour will overtop (the low point) should be located at least 25 m from the culvert.

2. A profile detail of the culvert installation including elevations (Section B-B on attached detail).

3 Cross section(s) showing the culvert invert elevations, the location of the geotextile placed on the embankment faces, and the location and extent of either the drain aggregate or the geotextile placed in the stream channel. (Section A-A on attached detail)

4. Include quantities of drain aggregate and geotextile in the detour quantities summary .

If you would like additional information please contact Paul Ferry at 444-6244 or Joe Olsen at 444-7224 or email jolsen@state.mt.us.

copies:

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Ron Williams,	Road design Engineer
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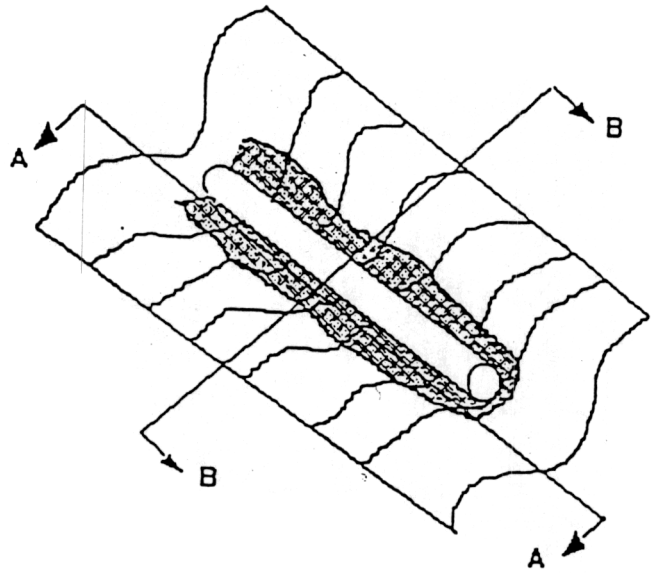
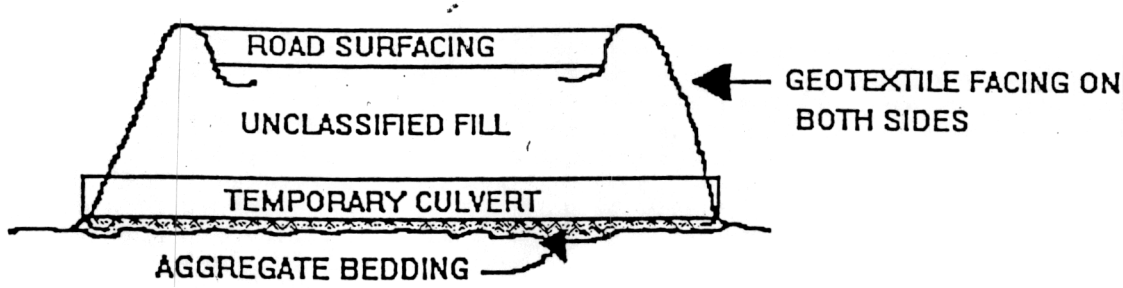
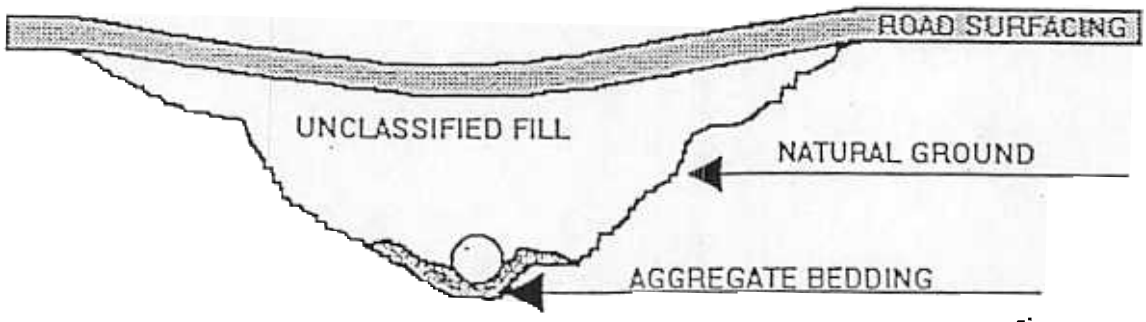
Dave Hill,	Chief – Environmental Services Bureau
Mark Goodman,	Hydraulics Engineer
Loran Frazier,	Missoula District Administrator
Jeff Ebert,	Butte District Administrator
Mick Johnson,	Great Falls Administrator
Ray Mengel,	Glendive Administrator
Bruce Barrett,	Billings Administrator.

CULVERT DETAIL DRAWING





SECTION A–A



SECTION B–B

Note: Keep roads as low as possible with geotextile covering on both slopes.